
Energy Independence and Security Act of 2007

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High Performance Federal Buildings
Title IV – Subtitle C

Section 431 – Energy Reduction Goals for Federal Buildings

Section 432 – Management of Energy and Water Efficiency in Federal Buildings

Section 433 – Federal Building Energy Efficiency Performance Standards

Section 434 – Management of Federal Building Efficiency

Section 435 – Leasing

Section 436 – High-Performance Green Federal Buildings

Section 437 – Federal Green Building Performance

Section 438 – Storm Water Runoff Requirements for Federal Projects

Section 439 – Cost-Effective Technology Acceleration Program

Section 440 – Authorization of Appropriations

Section 442 – Public Building Life-Cycle Costs

Energy Reduction Goals - Federal Buildings
Section 431

Increases the amount of energy the Federal Agencies must reduce annually to reach a 30% reduction target by 2015, from a 2003 baseline.

This Section basically puts part of E.O. 13423 into federal statute.

Fiscal Year	Percentage Reduction
2007	4
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30

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Management of Energy & Water Efficiency in Federal Buildings *Section 432*

Energy Managers shall be designated by each agency to implement this section to reduce energy at "covered facilities."

Covered Facilities constitute at least 75% of facility energy use at each agency.

Comprehensive Evaluation shall be completed for 25% of covered facilities at each agency yearly, so that each facility is evaluated every 4 years.

Recommissioning measures shall be identified & assessed by energy manager.

Implementation of energy and water efficiency measures – Not later than 2 years after completion of each evaluation, energy managers may:

- Implement measures that is life cycle cost effective
- Bundle individual measure of varying paybacks into combined projects

Follow-up shall be conducted for each measure implemented.

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Management of Energy & Water Efficiency in Federal Buildings Section 432

Follow-up shall be conducted for each measure implemented to ensure

- Equipment is fully commissioned
- O&M and Repair plan is in place and followed
- Equipment and system performance is measure during its entire life
- Energy and Water savings are measured

Guidelines and criteria are to be developed by DOE within:

- 6 months for designation of Energy Managers and Energy & Water Evals
- 1 year for Implementation of Measures and conducting Follow-up

Web-Based Tracking system shall be used by energy managers to certify compliance with evaluations, implementation and follow-up of measures

Management of Energy & Water Efficiency in Federal Buildings *Section 432*

Web-Based Tracking system shall be developed by DOE that tracks:

- Covered facilities
- Status of meeting commissioning requirements
- Estimated cost and savings for measures “required” to be implemented
- Measured savings and persistence of savings
- Benchmarking information

Web-Based Tracking system developed by DOE should:

- Use streamlined procedures & templates
- Be coordinated with other reporting requirements
- Be available to Congress, agencies & the public (Nat’l Security exemptions)

Benchmarking System shall be developed by DOE within 1 year (such as Energy Star Portfolio) and Energy Managers shall:

- Enter energy use data for metered facilities
- Include info on Web-Based Tracking system
- Update info annually and include previous year’s info for tracking changes

Management of Energy & Water Efficiency in Federal Buildings *Section 432*

Scorecards shall be issued by OMB semi annual for agencies that:

- Summarize status of implementing the various requirements
- Include “other means of measuring performance”
- Are made available to Congress, agencies and the public

Authorization – Such sums as necessary

Funding Options – Agencies may use any combination of appropriated funds and private financing to carryout the provisions of this section.

Federal Building Energy Efficiency Performance Standards *Section 433*

Revised Performance Standards – DOE shall establish by rule standards for new and major renovated buildings (using similar buildings in 2003 as a baseline) Must reduce fossil fuel-generated energy by the following amounts:

Fiscal Year	Percentage Reduction
2010	55
2015	65
2020	80
2025	90
2030	100

(Agencies may petition for adjustment in the requirement for a specific building if technically impracticable for the agency's specific functional need for that building)

Certification System and Level for Green Buildings shall be identified by DOE in consultation with GSA & DOD.

Management of Federal Building Efficiency
Section 434

Large Capital Investment must employ the most energy efficient design, systems, equipment and controls that are life cycle cost effective

This includes large capital energy investment in an existing building that is not a major renovation but involves the replacement of installed equipment (such as heating and cooling systems) or involves renovation, rehabilitation, expansion or remodeling or existing space.

Process for Review of Investment Decisions must be developed by each agency within 6 months to ensure this requirement is met.

Metering Requirements Expanded to Natural Gas and Steam – No later than October 1, 2016.

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Leasing
Section 435

Energy Star labels – 3 years after enactment of the legislation no agency may enter a lease for a building that has not earned an Energy Star label in the most recent year. Exceptions include:

a) No space is available in an Energy Star building that meets the functional and locational needs.

b) Agency is remaining in a building previously occupied

c) Building is of historical, architectural or cultural significance

d) Lease is for less than 10,000 sq ft

Exception (b) requires that the building be renovated with cost effective energy efficient improvements (lighting, HVAC, windows) within a year.

High Performance Green Federal Buildings
Section 436

Office of High Performance Green Federal Buildings established within GSA to:

- Coordinate with Office of Commercial High Perf Green Bldgs & other agencies
- Establish a senior level Fed Green Bldg Advisory Cmte for recommendations
- Identify and reassess improved or higher rating standards every 5 years
- Disseminate info and promote results of R&D relating to H-P Green Buildings
- Identify and develop H-P Green Building standards for all types of federal facilities
- Establish green practices to be used throughout life of a federal facility
- Identify opportunities to demo innovative and emerging Green Building technology
- Analyze budget practices & LCC issues, recommend changes to Congress:
  - Identify barriers to High-Performance Green Bldgs LCC and budgetary issues
  - Develop guidance & training for budget specialists & COs to apply LCC criteria to projects
  - Identify tools to aid LCC decision-making
  - Explore incorporating benefits of High-Performance Green Bldgs in to cost budget analysis to help in LCC budgeting and decision-making

High Performance Green Federal Buildings
Section 436

Incentives shall be identified by the HPGFB Office to encourage and expedite use of technology, including recognition awards and retention of savings

Reports to Congress on:

- Compliance with HPGFB requirements & initiatives, status of program funding
- Budgeting & construction process affecting certification of HPGFBs
- Inconsistencies with High-Performance green product acquisition guidelines
- Uniform agency standards for environmentally responsible acquisition
- Review of budget alternatives with OMB for capital programs, including:
  - Use of complete energy & environmental cost accounting
  - Use of operational expenditures in budget decisions incorporating health & productivity impacts
- Streamlining measures to retain savings
- Identify savings from HPGFBs, including from health & productivity impacts
- Green self-sustaining technologies for operational of fed facilities in emergencies
- State and local High Performance Green Building initiatives
- Recommendations to address issues

High Performance Green Federal Buildings
Section 436

Certification System shall be identified to encourage a comprehensive and environmentally sound approach to certifying HPGFBs based upon:

- A study every 5 years to compare and evaluate standards
- Ability of auditors & assessors to independently verify criteria & metrics
- Ability of standard setting organization to collect & reflect public comment
- Ability of a consensus-based standard to be developed and revised
- Ability to promote:
  - Sustainable use of water, energy and other natural resources
  - Renewable energy
  - Improved indoor environmentally quality
  - Reduced impacts from transportation through building location
- National recognition within the building industry

Federal Green Building Performance
Section 437

GAO Audit conducted to determine implementation progress and a review of:

- Budget life-cycle costing and contracting issues
- Level of coordination between GSA, DOE, OMB and other relevant agencies
- Performance of the Director of the Office of HPGFB
- Design stage of High-Performance Building measures
- High-Performance Building data collected and reported

Environmental Stewardship Scorecard to measure each agency's implementation of sustainable design and green building initiatives. The Director of HPFGB shall assist in implementing OMB government efficiency reports and scorecards announced at January 2006 White House Summit on Sustainable Buildings

Storm Water Runoff Requirements for Federal Development Projects *Section 438*

Predevelopment Hydrology of property shall be maintained or restored (temperature, rate, volume and duration)

- To the maximum extent technically feasible
- By the sponsor of any development or redevelopment project
- Involving a federal facility with a footprint over 5,000 square feet
- Using site planning, design, construction and maintenance strategies

Cost Effective Technology Acceleration Program *Section 439*

GSA shall establish of program to accelerate use of more cost-effective technologies and practices at GSA facilities to:

- Ensure centralized responsibility for coordination of cost-reduction practices for agencies
- Provide technical assistance and operational guidance to tenants
- Establish methods to track success of agencies

Accelerated use of technology shall be reviewed by GSA within 90 days, including current use and availability of cost-effective lighting & geothermal heat pump technologies and other cost-effective technologies at GSA.

Replacement Program for existing lighting, heating and cooling technologies with cost-effective lighting & geothermal heat pump technologies shall be established for GSA facilities within 180 days

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Cost Effective Technology Acceleration Program *Section 439*

Acceleration Plan Timetable of actions to implement this Section and Sections 431-435, including milestones for specific activities needed to install cost-effective lighting and geothermal heat pump technologies at each GSA facility

Goal is to complete requirements using available appropriations and Sections 431-435, "whichever achieve greater savings more expeditiously"

Practices – within 6 months GSA shall:

- Ensure that a manager is designated to be responsible for implementing Section 432 and accelerating use of cost-effective technologies for each GSA facility
- Submit a plan to comply with this Section

Cost Effective Technology Acceleration Program *Section 439*

Plan shall implement measures under this & Sections 431-435 within 5 years and:

- Identify activities needed to comply with Sections 431-435
- Identify activities needed to achieve at least a 20% reduction in operation costs thru application of cost-effective technologies within 5 years
- Activities required and carried out to estimate funds necessary to achieve 20% reduction
- Include an estimate of funds necessary to carry out this section
- Describe status of implementation of cost-effective technologies
- Identify procedures (planning, budgeting & construction) that inhibit GSA from implementing cost-effective technologies
- Recommendations for uniform standards for federal agencies to implement cost-effective technologies
- Work with OMB for alternatives in budget process for identifying and retaining savings
- Recommendations and a plan for implementation

Authorization of Appropriations
Section 440

$4 Million per year for 2008-2012 to implement Sections 434-439

Public Building Life-Cycle Costs
Section 441

This Section amends 42 USC 8254(a)(1) to change 25 years to 40 years

Sec. 8254. Establishment and use of life cycle cost methods and procedures

(a) Establishment of life cycle cost methods and procedures The Secretary, in consultation with the Director of the Office of Management and Budget, the Secretary of Defense, the Director of the National Institute of Standards and Technology, and the Administrator of the General Services Administration, shall–

(1) establish practical and effective present value methods for estimating and comparing life cycle costs for Federal buildings, using the sum of all capital and operating expenses associated with the energy system of the building involved over the expected life of such system or during a period of ~~25~~ 40 years, whichever is shorter, and using average fuel costs and a discount rate determined by the Secretary; and

(2) develop and prescribe the procedures to be followed in applying and implementing the methods so established.

Energy Savings Performance Contracting
Title V – Subtitle B

Section 511 – Authority to Enter into Contracts and Reports

Section 512 – Financing Flexibility

Section 513 – Promoting Long-Term ESPC and Verifying Savings

Section 514 – Permanent Reauthorization

Section 515 – Definition of Energy Savings

Section 516 – Retention of Savings

Section 517 – Training of Contracting Officers to Negotiate Contracts

Section 518 – Study of Energy and Cost Savings in Non-Buildings

ESPC Sections

Authority to Enter into Contracts and Reports (Section 511)

Including Elimination of Congressional Notification process

- Eliminates government-wide Congressional Notification requirement for projects over $10M 42 USC 8287(a)(2)(D)iii
- Eliminates Defense Department Congressional Notification requirement for projects over $7M 10 USC 2913(e)
- Requires agencies to report on “any termination penalty exposure” in addition to the energy and cost savings resulting from ESPCs

ESPC Sections

Financing Flexibility (Section 512)

Allows the use of appropriated funds to be combined with financing to leverage ESPC projects

Promoting Long-Term ESPCs and Verifying Savings (Section 513)

Prohibits agencies from establishing a policy to limit ESPC projects to less than the maximum 25 year term. Also prohibits agencies from establishing policies to limit the size of individual projects.

Permanent Reauthorization (Section 514)

Deletes current sunset provision for 2016. Authorizes ESPC permanently

ESPC Sections

Definition of Energy Savings for ESPCs (Section 515)

- Expands definition of energy savings to “co-generation or heat recovery”
- Does NOT explicitly expand definition to Renewable Energy
- Allows for the sale or transfer of excess electric or thermal energy generated on-site from renewable energy or co-generation to utilities or non-federal users
- Allows water savings in interior or exterior applications

Retention of Savings (Section 516)

Corrects a legacy legislative problem with retention of savings provisions. Allows agencies to retain 100% of savings on site

ESPC Sections

Training of Contracting Officers to Negotiate Contracts (Section 517)

Requires DOE to train contracting officers throughout the federal government to negotiate and "conclude effective and timely contracts"

Study of Energy Savings in Non-Building Applications (Section 518)

Calls for a federal study and report to Congress on the potential for the use of ESPCs to reduce energy in non-building applications, including

- Mobility: Vehicles, ships, planes, etc…
- Federally-owned equipment used to generate electricity

ESPC Sections

Also, a provision in the House FY08 Defense Authorization bill would have prohibited the use of ESPCs, UESCs & EULs to meet DOD's 25% Renewable Energy Goal

Eliminated in Conference Committee

Energy Efficiency in Federal Agencies
Title V – Subtitle C

Section 521 – Installation of Photovoltaic System at DOE Headquarters

Section 522 – Prohibition of Incandescent Lamps by Cost Guard

Section 523 – Standard Relating to Solar Hot Water Heaters

Section 524 – Federally Procured Appliances with Standby Power

Section 525 – Federal Procurement of Energy Efficiency Products

Section 526 – Procurement and Acquisition of Alternative Fuels

Section 527 – Government Efficiency Status Reports

Section 528 – OMB Government Efficiency Reports and Scorecards

Section 529 – Electric Sector Demand Response

Energy Efficiency in Federal Agencies
Title V – Subtitle C

Installation of Photovoltaic System at DOE HQ (Section 521)

GSA shall install PV (Sun Wall Design Project) at Forrestal Building - $30M from Federal Buildings Fund

Prohibition of Incandescent Lamps by Cost Guard (Section 522)

After January 1, 2009 the Coast Guard shall not purchase incandescent light bulbs (some exceptions)

Standard Relating to Solar Hot Water Heaters (Section 523)

At least 30% of hot water demand for new or major renovated federal buildings be met through solar hot water if life-cycle cost effective

Energy Efficiency in Federal Agencies
Title V – Subtitle C

Federally Procured Appliances with Standby Power (Section 524)

Purchasing requirement for eligible products that use not more than 1 watt in standby power mode

Federal Procurement of Energy Efficiency Products (Section 525)

Federal catalogue listing amendment

Procurement and Acquisition of Alternative Fuels (Section 526)

Contracts for alternative and synthetic fuels must specify that the life cycle greenhouse gas emissions be less than or equal to conventional fuel

Energy Efficiency in Federal Agencies
Title V – Subtitle C

Government Efficiency Status Reports (Section 527)

Each agency shall submit to OMB an annual status report on

- Compliance with this section
- Status of implementation of efficiency and GHG reductions
- Savings to taxpayers

OMB Government Efficiency Reports and Scorecards (Section 528)

OMB shall submit an annual report to Congress on

- Overall progress toward goals
- Recommendations for additional actions
- A description of the compliance of each agency with the requirements of this title

Electric Sector Demand Response (Section 529)

FERC shall conduct a National Assessment of Demand Response

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Renewable Energy for Federal Agencies
Provision dropped

Renewable Energy Power Purchases

Various proposal to allow agencies to enter into long term agreements (30 – 50 years) for power generated by renewable energy

Rationale: Help develop on and off-site renewable energy assets

Provisions not adopted

Fed Vehicle Fleets & Biofuels Infrastructure
Title I – Subtitle C and Title II – Subtitle C

Section 141 – Federal Vehicle Fleets

Section 142- Federal Fleet Conservation Requirements

Section 246 – Federal Fleet Fueling Centers

Federal Vehicle Fleets
Title I – Subtitle C

Federal Vehicle Fleets (Section 141)

No agency shall acquire a light or medium duty vehicle that is not low greenhouse gas emitting (some exceptions). EPA shall issue guidance identifying qualifying vehicle makes and models

Federal Fleet Conservation Requirements (Section 142)

Federal fleets shall, beginning in FY 2010 and not later than 2015:

- Reduce annual petroleum consumption by 20%
- Increase annual AF consumption by 10%
- Calculate use 2005 as baseline

Goal: Reduce petroleum use 20%; increase alternative fuel use 10% (2005 baseline)

DOE shall develop regulations to include:

- Interim numeric milestones
- Annual reporting requirement
- Agency plan guidance

Biofuels Infrastructure
Title I – Subtitle C

Federal Fleet Fueling Centers (Section 246)

Each agency shall install at least 1 renewable fuel pump at each federal fleet fueling center no later than 2010

The President shall report to Congress annually on the progress of this initiative including the number of federal fueling centers:

- Containing at least 1 renewable fuel pump
- Without a renewable fuel pump

Other Energy Efficiency and Sustainable Provisions *Title IV*

Following is a list of other federal programs to promote energy efficiency and sustainability in buildings

Residential Building Efficiency (Sections 411 – 413)

High Performance Commercial Buildings (Sections 421 – 423)

Industrial Energy Efficiency (Sections 451 – 452)

Data Center Buildings (Section 453)

Healthy High-Performance Schools (Section 461 – 462)

Institutional Entities (Section 471)

Public and Assisted Housing (Section 481)

Provisions Not Adopted

National Renewable Efficiency Standard

Dropped from the final version of the legislation was a controversial provision to require electric utilities to produce 15% of their electricity from renewable energy sources by 2020. The abandoned provision would have also allowed up to 4% of the 15% (approximately 27% of the total) to be met through energy efficiency measures. Utilities would have received a credit for every kilowatt of electricity they produce from wind, solar, geothermal, tidal, ocean and biomass energy. Credits were to be traded or sold among utilities, or bought from the Department of Energy.

Currently, more that half the states have some type of renewable-electricity mandates. However, heavy lobbying against the provision and a veto threat, forced the Senate to drop the provision from the final bill.

Provisions Not Adopted

Tax Incentives for Renewable and Efficient Energy

Several tax provisions were eliminated from the final version of the legislation:

- **Wind –** Dropped was a proposal for a long-term extension of the renewable energy Production Tax Credit (PTC). The current PTC expires at the end of 2008. The proposal would have extended the placed-in-service date for four years to 2012 for qualifying wind, closed loop biomass, open-loop biomass, geothermal; hydropower, landfill gas and trash combustion facilities.
- **Solar –** Dropped was a proposal for a long-term extension of the solar energy and fuel cell Investment Tax Credit (ITC). The current ITC expires at the end of 2008. The proposal would have extended the 30% ITC for eight years until 2016.
- **Commercial Buildings –** A five year extension of the tax deduction for energy efficiency improvements in commercial buildings was also dropped. The current deduction expires at the end of 2008.

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